

Social Media in Syria's Uprising and Post-Revolution Libya: An Analysis of Activists' and Blogger's Online Engagement

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Introduction

The past four years have been a time of political upheaval and reform for many Middle East and North African (MENA) countries. There have been varied explanations for these changes including the demographic profile of younger generations (Dubai School of Government, 2011a), anger at corruption in government (Miladi, 2011), adoption of techniques from successful political campaigns (Ishani, 2011), and the coordination of dissent through offline and online efforts. The use of social media by anti- and pro-government groups has been widely publicized, and some suggest that social media was afforded too much credit in the political changes and reforms that occurred in places such as Tunisia, Egypt, Libya, and the ongoing conflict in Syria (Ghannam, 2011). Although this may be the case, the information that can be gathered from examining the social media of political activist groups is often a window into the movements and a source of alternative information for the people of those countries. Because the media are often censored under authoritative governments, these social media sites become an important voice in describing and documenting attacks, coordinating protests and other anti-government activities, creating community, and communicating information to local and global audiences (Eaton, 2013; Howard et al., 2011; Khamis & Vaughn, 2013; Storck, 2011).

In order to investigate and understand the content focus of social media posts, mainly the issue attributes about the uprising, information sources of those attributes and the potential relationship between information sources and issue attributes, the study examined the Facebook and Twitter content of activist groups and an independent blog site about two disparate situations; post-revolution Libya and revolution-stage Syria. Existing studies have explored the roles of social media during the time of revolution. Therefore, this study will explore whether there was any shift in the tone/attributes included in Twitter and Facebook posts about Libya's political situation after the revolution.

The organizers of recent uprisings in the MENA region prefer to label the event "revolution." This article uses revolution and uprising interchangeably to refer to civil protest against rulers or the regimes in Libya and Syria.

Context: State of Media and Social Media Usage in Syria and Libya

Before discussing the roles of social media and the Internet during political movements and analytical framework for this study, it is important to understand the state of Internet and cell phone connectivity, social media usage and information flow in the time of political uprisings in the MENA region, particularly in Syria and Libya.

There was a 30 percent increase -- "a substantial shift" -- in social media usage, mainly among youth, in the Arab World during the first three months of the 2011 uprisings in Tunisia, Egypt, Libya, Yemen and Syria (Dubai School of Government, 2011a, p.2). Because of disparate degrees

of political and media freedom, the adoption and spread of Internet and mobile connectivity did not occur at the same pace in different Arab countries (Dubai School of Government, 2011). In the first quarter of 2011, the penetration rate of Facebook in Syria was only around 1.5 percent, which quickly rose to 9 – 10 percent in the first two months of 2012. Since the Syrian administration lifted the ban on social media in February 2011, the number of Syrian social media users started to pick up (Dubai School of Government, 2011, 2013). Unlike the exponential growth in Syria, the Facebook penetration rate was slower in Libya as it increased from 4.3 percent in the first quarter of 2011 to 6 – 7 percent in the first two months of 2012 (Dubai School of Government 2011a, 2013). An explanation for this could be the Qaddafi administration's constant effort to disrupt Internet connectivity. Libyans experienced low Internet access in the months of March and April in 2011 (Dubai School of Government, 2011; O'Brien, 2011).

Cell phone penetration was 46% in Syria and 80% in Libya before the uprising, much higher than Internet and social media penetration in those countries ("Libyan Population," 2011; "Syrian Population," 2011; "How Wired," 2010). But it was not clear whether some of those cell-phone users had Internet connectivity. Since more than 250 million mobile users in the MENA region accessed Facebook through mobile phones by the first quarter of 2011 (Dubai School of Government, 2011a), there is a likelihood that a section of cell-phone users in Libya and Syria could access the Internet through their mobile devices.

As alluded to earlier in this section, one of the reasons that social media has become an important player in the revolutions in Syria and Libya is the state control of media. Until the recent revolution, Libyan media "remained among the most tightly controlled in the world" ("Freedom of the Press," 2011: para. 1). Since that time the press has flourished in Libya, but the number of locally trained journalists remains small (Davies, 2011). Likewise, the government in Syria owns or controls the television and radio stations, newspapers, and a news agency. The government also controls the flow of information and expression by barring criticisms of the president or his family, preventing privately-owned stations from broadcasting news and political content, and blocking global and opposition websites ("Syria Profile," 2012; Albanesius, 2011). Journalists and bloggers are also seen as threats to the government; so many fled the country, and "those who remain, risk detention and physical attack" ("Syria Profile," 2012).

Amid the events of censorship of national and international news coverage of the uprising and war-like situation (Committee to Protect Journalists, 2011), the international audience was largely dependent on two types of journalists to get information about the uprising in Syria (Zein, 2012). One of the information sources from Syria was comprised of local citizens who became videographers to document the movements and governmental responses (Zein, 2012). Foreign journalists who had to enter the country illegally also supplied information to the international community (Zein, 2012). These two types of journalists were also heavily using Facebook, Twitter and YouTube to disseminate information. While navigating different Twitter and Facebook pages on the uprising in Syria and Libya, the researchers found that a majority of those pages were in English; and as per the location information, most of the pages in English were administered by someone living in another country or region.

Even though social media penetration was relatively lower in Libya and Syria, thousands of Tweets and Facebook posts were generated from these countries, the MENA region and around the world. For example, the hashtag "#libya" was one of the top three Twitter hashtags trending in the Arab region in the first three months of 2011. There were about 64 thousand active users of Twitter in Libya and over 40 thousand active users of Twitter in Syria during the first quarter

of 2011 (Dubai School of Government, 2011a). Therefore, it is important to know the sources of information for social media messages about these countries, and the relationships between certain types of messages and information sources.

Social Media, Cyberactivism and Political Movements

Websites and social media sites are offering new forms of political mobilization. The networked design of social media is a powerful feature that can prove threatening to the authoritarian ruler (Howard, 2011; Li & Bernoff, 2011). The design structure of social media or Web 2.0 technologies allows people with basic computing skills to exercise democratic rights and resist state control of information. Such online tools are helpful in inspiring, organizing, mobilizing and documenting Internet activism (Eaton, 2013; Rahimi, 2011). The rise of social media in political movements provides opportunities for activists to use their social media networks to form online identities for their respective groups (Qui, 2008). Both anti- and pro-government groups use social media to fight against and maintain the status quo, respectively (Rahimi, 2011). Therefore, social media usage has served to promote competition in political dialogue and in political systems (Rahimi, 2011).

Even before the Arab uprisings, the Internet and social media played an important role in the context of these political movements: Ukraine's "Orange Revolution" in 2004 – 2005 (Goldstein, 2007), the "Saffron Revolution" in Burma in 2007 (Glaser, 2007), civil uprising in Moldova in 2009 (Barry, 2009) and the "Green Revolution" in Iran in 2009 (Moghanizadeh, 2013; Levinson, 2013). As a result, scholars began studying the roles of the Internet and social media in political movements in different countries. As part of that effort, Howard (2011) explained the concept of 'cyberactivism.'

Howard (2011) defines the concept of cyberactivism as "the act of using the internet to advance a political cause that is difficult to advance offline" (p. 145). Political discourses on such online space can be a mix of arguments, counter-arguments and attacks, because cyberactivists usually tell stories of their frustration around injustices or political/social realities, interpret situations on the ground through both textual and visual messages, and push for certain "political outcomes" (Howard 2011:145). A major political goal of such activism is to offer "informational access" to the public that might be either ignored or unrecognized by mainstream media or suppressed by the government (Howard 2011: 145).

The People Power II movement in the Philippines and the Nosamo movement in South Korea both successfully used mobile phones to increase political activism and to "stimulate collective action in an efficient way" (Qiu, 2008, p. 53). Analysis of these movements shows the effectiveness of creating a sphere of openness and dialogue among different social groups (Qiu, 2008). The Facebook and Twitter communities formed in light of events in Libya and Syria enable this same kind of effective communication and organizing to take place.

Internet/Social Media and 'Arab Spring'

A good number of studies have already examined the roles of Internet and social media in the context of the Arab Spring. The Internet can be a factor of political change in pre-, during- and post-revolution times (Aouragh, 2012). Social media helped the organizers of uprisings in different Arab countries to expand and maintain the momentum of the respective movement (Aouragh, 2012; Howard et al., 2001). According to Aouragh (2012), online activism for civic engagement can be compared with the "trio-characteristic of revolutionary political organizing: *Educate-Agitate-Organize*" (Aouragh, 2012, p.531). Political movements are organized and matured offline while interaction and communication online can "amplify political agendas and opinions"

among a section of activists and garner “global solidarity” (Aouragh, 2012, p. 531). In the post-revolution context, the same social media spaces can gather ideas and opinions through engagement with social media users about issues, such as political reforms and rebuilding efforts (Aouragh, 2012). Therefore, this study will explore the pattern in social media content relating to post-revolution Libya.

Researchers of an initial study were not sure whether online discussion contributed directly to the street protests (Howard et al., 2011). That study, however, recognized the roles of both professional and citizen journalists and tech-savvy activists who were contributing content for social media sites (Dubai School of Government, 2011a; Howard et al., 2011). Levinson (2013) described the Wael Ghonim’s Facebook page against Mubarak’s regime in Egypt as “a trigger and rallying point for the revolution” (p.178). There is evidence that when people engage in online communication with like-minded others, their political activities off-line increase, too (Wojcieszak, 2009). An offline political activity, stemming from on-line discussions and community, is an important result of social media connectivity. Constant political discussion on the Internet and their exposure in the news media can garner enough attention among the public during a political movement (Wojcieszak, 2009).

During and after a political movement social media is not only important for informing and organizing efforts, it’s also a key tool for putting pressure on the government (Lucas, 2012). Without social media, “the revolution would’ve been crushed immediately” in Syria (Lucas, 2012). Other than the roles of organizing the movement and creating awareness about the political cause, social media appear as an alternative press or a source of news (Storck, 2011; Lucas, 2012). During the peak of the protests, mainstream media gathered information from the dialogue on Facebook, Twitter and other social media sites; for example, Al-Jazeera utilized the posts of reputed bloggers and Twitter users during their live coverage of the revolution in Egypt (Storck, 2011).

Furthermore, political activists can utilize blogs and other social media sites as the platform of collaboration (Khamis & Vaughn 2013). Some Tunisian activists posted pro-democracy and solidarity messages on Egyptian political blogs and Facebook pages when the revolution against the Mubarak regime was in progress in 2011 (Khamis & Vaughn, 2013, p.77). Such collaboration helped democratic ideals spread across the region. “Democracy advocates” in Egypt and Tunisia utilized social media to gain followers from other countries in the region and around the world (Howard et al., 2011, p.3).

Though previous research analyzed social media content, the broad focus was more on the utilities of cyberactivism or the functions/roles of social media/Internet in the Arab uprisings. But the success of Internet activism depends on its ability to get people inspired around a political cause or movement, and get them into the streets (Eaton 2012; Howard 2010; Storck 2011). The content posted online needs to resonate with the interests and concerns of citizens and the global community. Therefore, there is a need to analyze how different aspects of uprising – issue attributes/agenda attributes – were presented and discussed through social media posts. By “how,” this study refers to the degree an issue attribute (e.g. the criticisms of political actors) was highlighted/included in social media posts compared to other issue attributes (e.g. roles of international organization, political events).

Social Media, Agenda-Setters and Agenda Attributes

In the situations of uncertainty, the public relies on media messages to get perspectives and information on an issue that is relevant to them (Severin & Tankard, Jr., 2001). As mentioned in

an earlier section, amid media censorship and controlled communication during the civil uprisings in Libya and Syria in 2011 – 2012, people residing in those countries, expatriates, foreign media, and the international community had to rely on citizen journalists and other social media sources, who were relaying updates with short messages, posting links, photos, and video clips via Twitter and Facebook pages.

Given the importance of social media among Internet users for political information, this study has utilized the concept of attribute agenda-setting or a second-level agenda setting to categorize different aspects of the social media posts on civil uprisings (Severin & Tankard, Jr., 2001; McCombs, 2005). The argument behind this theory is when the news media cover issues/events, they put emphasis on certain issue attributes over others (McCombs, 2005). But in the case of the uncontrolled online public sphere, where users experience dialogue and differences, there may be numerous aspects of an issue in circulation (Dahlberg, 2001). Information, opinions and interactions can shape thought patterns about an issue in question. While social media posts can inform the storytelling and set agendas for journalists (Kushin, n.d.), they can also shape the thought pattern of other social media users. Like any other content analysis, these multi-dimensional online discussions can still be organized in broad issue-attribute categories in an attribute-agenda study. Therefore, this study will investigate:

RQ 1: What was the content focus, in terms of attribute agendas, of Twitter and Facebook pages on the civil uprising in Syria and the post-revolution situation in Libya?

Since both traditional and new or citizen-run online media can shape each other's issue and attribute agendas (Lee, Lancendorfer, and Lee, 2005; Sweetser, Golan, & Wanta, 2008; Kushin, n.d.), agenda-setting studies on new media have identified the prevalence of inter-media agenda-setting function. Journalists monitor posts and interactions on social media sites for newsgathering purposes (Reid, 2014; Storck, 2011), while many individual users or citizens repost or share news stories through their social media accounts. Such trends suggest that there is an interdependence among the sources of social media posts.

As social media platforms are user-generated, not only news organizations but also individuals and non-news organization contribute to the discourses and issue attributes in the online public sphere. A majority of Facebook and Twitter posts in the U.S. are generated from friends/family or individual sources, while only 13 percent of the Facebook post sources and 27 percent of the tweet sources are news organizations and journalists (Mitchell & Rosenstiel, 2012). Non-news organizations comprise 10 percent and 18 percent of sources respectively for Facebook and Twitter (Mitchell & Rosenstiel, 2012). Another study found that elite news organizations and journalists working for those organizations dominate the news sources on Twitter (Heim, 2011). Though these study findings are reflective of the U.S. social media landscape, it would be interesting to see whether the trend of using individual and non-news sources in concert with news media sources was also a pattern among social media users in Syria and Libya.

Diverse sources of information can result in more attributes and dimensions about an issue in the online public sphere. But the quality of information and discussion is dependent on the types and relevancy of those sources in the context of an issue (Wang, 2013). For example, "experts" are influential sources of information for technology-related issues (Wang, 2013, p.2). Therefore, this study will identify the dominant sources of tweets and Facebook posts on post-revolution Libya and the civil uprising in Syria. As the information sources can shape the tone and focus of content, this research will explore not only the sources of tweets and Facebook posts on the

Libyan and Syrian situations but also the relationship between posts and sources by investigating the following research questions:

RQ 2: What were the sources (including “@mention,” “RT,” links) of tweets and Facebook posts on the civil uprising in Syria and during post-revolution situation in Libya?

RQ 3: What was the relationship between information sources and issue attributes included in tweets and Facebook posts?

Method

Content Analysis This study uses a quantitative content analysis method to examine attribute agendas and information sources included in tweets and Facebook posts of two Twitter and two Facebook pages on the uprising in Syria and post-revolution Libya. Content analysis is a research technique of systematically analyzing media messages, which can be text, video, pictures or audio (Krippendorff, 2004; Babbie, 2004). The method uses a coding framework to identify characteristics in media content, such as attributes, use of words and ideas. Simultaneously, the content analysis method also helps the researchers to identify trends and patterns in content, and make valid inferences about media coverage over a period of time (Krippendorff, 2004; Riffe, Lacy, and Fico, 2005). A quantitative content analysis can make it easier to interpret the trend and pattern in message characteristics (Wimmer & Dominick, 1994), such as issue attributes and information sources.

Sample Sources Though there were a few popular Twitter and Facebook pages on the uprisings in Syria and Libya, it was a challenge to identify social media pages for a message trend analysis. While selecting the sample, we relied on two criteria – accessibility in terms of English language and popularity (in terms of the number of followers and fans compared to other Twitter and Facebook pages on the Syrian conflict and post-revolution Libyan). The researchers used the “Arab Spring Social Media Guide” published by *Before It’s News* (2011), a news site of community journalists worldwide, to identify Twitter and Facebook pages with an increased number of followers and fans. Based on our criteria, we identified the Twitter and Facebook pages of Libya Youth Movement (@ShababLibya), the Facebook page of the Syria Revolution 2011, and Twitter page of Syria News Wire (@syrianews). This decision of not maintaining consistency in sample source selection in both countries may appear as a limitation for this study; therefore, we discuss the reasoning later in this section under the subhead “Limitations.”

In early 2012, Shabab Libya had more than 50 thousand followers on its Twitter page @ShababLibya, 52,896, and 23,273 “likes” on its Facebook page. During the timeframe of data collection, its Twitter and Facebook pages were regularly updated, almost seven days a week, with tweets and posts on a variety of political and non-political topics (Shabab Libya, n.d.). The Syrian Revolution 2011 was listed as a top page gainer on the SocialBakers website, a social media analytics platform. It was listed as a growing page and was the top growing page of the month with more than 36,000 new fans (Facebook Pages Statistics for Community Tagged as Politics 2012). The Syrian Revolution 2011 Facebook account had 429,000 “likes” during the time of data collection. In addition to the thousands of people who “like” this page, 63,569 were “talking about” it at the time of data collection (The Syrian Revolution 2011, n.d.). This study also includes the Twitter page of an independent site on news about Syria -- Syria News Wire -- that can be found with the Twitter handle @syrianews (this page was administered by a British-Arab broadcast journalist Sakhr Al-Makhadhi). This Twitter page had little more than 9,500 followers in early 2012, much less than the number of followers on Shabab Libya’s Twitter page.

The Syria News Wire is run by a British-Arab broadcast journalist, who has been covering Syria since 2001, and maintaining this blog since 2005 with content contributions from “the streets of Damascus and beyond” (Syria News Wire n.d.). Syria News Wire and its Twitter account are good examples of how professional and citizen journalists residing abroad utilized social media tools to cover the events of the uprisings.

Sample and Timeframe Our sample represents four weeks of Twitter and Facebook activity in January - February 2012. Tweets considered for analysis were posted in the second week of January, 2012, and third week of February, 2012, while Facebook posts analyzed in this study were posted in the fourth week of January, 2012, and first week of February, 2012. We analyzed a total of 641 tweets and Facebook posts relating to post-revolution Libya and Syria’s uprising. Of them, 274 posts were tweets of the Libya Youth Movement and Syria News Wire, and 367 posts were Facebook status updates of the Syrian Revolution 2011 and Libyan Youth Movement. Of the 274 tweets analyzed, 170 tweets were posted on Libya Youth Movement’s Twitter page in two weeks while 104 tweets were published by Syria News Wire.

We coded all the relevant tweets and Facebook posts of the Libyan Youth Movement and Syria News Wire. As there were more than 500 uprising-oriented Facebook status updates posted on the Syrian Revolution 2011 page in the fourth week of January and the first week of February, a random generator number technique was used to identify one in every three posts to reduce the quantity of Facebook posts to a manageable number. While selecting tweets and Facebook posts for analysis, we did not include any irrelevant tweets or status updates, such as weather information, and exchange of greetings between the administrator and a follower of a page.

While constructing the sample size, we also considered the method that uses standard error and confidence intervals. With a standard error of plus and minus 5 percent, and a confidence interval of 95 percent, we needed a sample of at least 384 tweets and Facebook posts (Neuendorf, 2002, p.88). The researchers coded a total of 641 Twitter and Facebook posts.

Coding Content analysis method is executed through a coding protocol. After monitoring a week of tweets and Facebook posts in January 2012, the researchers developed six attribute agendas: political demands and citizen’s rights, international responses, the roles of internal political players, rebuilding efforts, situation/movement, and others. A detailed codebook with the scope of coding for each of these agenda attributes and examples are included in Table 1. Of the six coding categories, one attribute agenda – rebuilding efforts/nation-building -- was not considered in the analysis of posts on the Syria uprising. Likewise, the attribute agenda, situation/movement, was not considered for Libya-related tweets and Facebook posts.

Political demands and citizen’s rights: This code includes the posts related to political demands/rights, criticisms of regime, and violation of rights.

International politics and responses: This code takes into the consideration posts that share the roles of/views about the U.S., European Union, Russia, Israel, Arab League, responses from other Arab countries, and international or regional organizations.

Internal/local political players: This code includes the posts about the stances/roles of political parties/the opposition alliance, national transitional council, Syrian National Council, and the government/ruling party.

Rebuilding efforts/Post-movement organization: This code includes post-revolution rebuilding activities; nation-building; and participation of local groups in Libya and Libyan community living in other countries in rebuilding initiatives;

Movement/Protest: This code includes posts related to the events of protest/demonstration and clashes.

Others: This category refers to the topics that are related to uprising, e.g. information about uprisings in other Arab countries and the celebration of February 17 as Freedom Day in Libya.

We also coded information sources that shape the tones of social media content in six categories: 1) page administrators and individuals' social media pages, 2) local media and journalists (in Libya and Syria), 3) Arab (regional) media and journalists, 4) international media and journalists (representing the media outside the Arab region), 5) research/international/development organizations (any organization including political entities outside Syria and Libya), and 6) political organizations (in Libya and Syria) [Table 2].

Intercoder Reliability A test of intercoder reliability for attribute agenda and information source categories was conducted on 70 randomly-selected Twitter and Facebook posts, which is more than 10 percent of total sample size ($N = 641$). The agreement between two coders ranged between 90% and 97%, while Scott's pi test ranged from .94 to 1.

Statistical Analysis This study applied both descriptive and inferential statistical analysis to interpret the coded data. Along with descriptive statistics, this study used crosstab analysis to compare the presence of attribute agendas in Twitter and Facebook posts. Also, this study employed independent sample t-test and Posthoc Tukey's test for the purpose of within and between group comparisons. Also, the analysis of binary logistic regression was conducted to test the relationship between information sources and attribute agendas.

Limitations Although this study analyzed post-revolution Libya content from the Facebook and Twitter pages maintained by Shabab Libya, it did not analyze both Twitter and Facebook pages of the Syrian Revolution 2011 for Syria-related content. The majority of the Twitter posts of the Syrian Revolution 2011 were in Arabic. Because of the language barrier and budget constraint for hiring an Arabic-to-English translator, the researchers instead decided to analyze tweets of "SyriaNews," which we found to be a top blogger-generated source on the Syria situation in English. The purpose of this study is not to highlight the roles of certain citizen journalists or groups during uprising in Syria and post-revolution period in Libya, but to utilize these outlets to understand the trends in Twitter and Facebook posts that played a key role during and after the Arab uprisings.

Results

Results for RQ1: The content focus/attribute agendas of Twitter and Facebook pages on the civil uprising in Syria and post-revolution Libya. The roles of internal political actors (50.6%), political demands and citizen's rights (32.8%), and post-movement organization (31.9%) were the top three attribute agendas reflected in the tweets and Facebook posts from the post-revolution situation in Libya. Interestingly, "others" (30.1%) ranked fourth over the roles of international responses/actors (15.8%) [Table 3].

The top three attribute agendas on social media pages about the Syrian uprising were the roles of internal political actors (81.2%), political demands and citizen's rights (65.9%) and movement/protest events (56.2%). Only 11.7% of the social media content on Syria relates to international responses and 1.7% about others, such as civil uprisings in other countries including Libya [Table 3].

Results for RQ2: Trends in the information sources used in tweets and Facebook posts. If we look at Figure 1, we can see the increased reference to individual social media pages and page administrators in the Twitter and Facebook posts about the Libyan and Syrian situations. The Libyan account led the way in terms of referring to individual users on Facebook (63.8%) in its posts, followed by the Twitter page on Syria uprising, the Twitter page on Libya, and the Facebook page on Syria [Figure 1]. The Twitter page on Syria included more individual sources than the Twitter page on Libya. In summary, the Facebook page on Libya and the Twitter page on Syria used more individual social media users than other types of sources [Figure 1].

The second largest group that appeared as a reference or information source in the Facebook posts and tweets is international news media and journalists. The Facebook page on Libya referred to international news media and journalists (32.3%) more than the three other social media pages analyzed in this study. The Facebook page on Syria provided lesser reference to international news media and journalists (only 6.6%). But unlike the Facebook page on the Syrian uprising, the corresponding Twitter used more foreign journalist and news media sources. International news media and journalists were the second largest source of tweets and Facebook posts on the Shabab Libya's pages [Figure 1].

The Twitter page on Syria used more Arab media sources than the three other social media pages. The Facebook page on Syria also referred to or used more Arab media sources than the Facebook page on Libya [Figure 1]. Overall, social media pages on Syria used more Arab media sources than social media pages on Libya.

Both the Facebook pages on Syria and Libya used political sources more than both the Twitter pages. Except for the Facebook page on Syria, both the Twitter pages and the Facebook page on Libya used some information originating from international development and research organizations. Unlike the three other social media pages, the Facebook page on the Libyan situation used more local media sources (9.4%) [Figure 1].

Results for RQ3: Relationship between information sources and issue attributes covered in tweets and Facebook posts. A binary logistic regression analysis found a significant relationship between the presence of attribute agenda of political demands and citizen's rights, the roles of internal political actors, and the use of information sources originating from political organization ($B = 4.054, p < .001, B = 3.831, p < .001$ respectively). Also, the use of international media/journalists ($B = 1.931, p < .001$) and political organizations ($B = 3.467, p < .001$) as news sources are significantly related to the information about international responses.

In the coverage of rebuilding efforts or nation-building in Twitter and Facebook posts on the Libyan situation, we found a significant relationship with five information sources – individuals' social media pages ($B = 3.219, p < .001$), local media/journalists ($B = 1.708, p < .05$), Arab media ($B = - 3.497, p < .001$), international media/journalists ($B = 2.496, p < .001$), and international development and research organizations ($B = 2.417, p < .05$).

Individuals' social media pages ($B = 2.062, p < .001$), local media/journalists ($B = -3.252, p < .001$), Arab media ($B = 3.246, p < .001$), and information from political organization ($B = 1.092, p < .05$) had a significant relationship with protest/movement-related information about Syria.

As we can see, depending on the nature of topic of attribute agenda, the influence of information sources can vary. Information from political organizations appeared to be influential in the use of the majority of attribute agendas – situation/movement, political demands and citizens' rights, and the roles of internal political actors. Also, international media/journalists had an obvious influence on the international responses. Individual/organizational social media pages, local media, and Arab media had a significant influence on situation/movement and rebuilding-related posts. Only in the case of posts on rebuilding efforts, this analysis found a significant influence of the sources associated with international development and research organizations.

Discussion

The results of the examination of tweets and Facebook posts reveal the trend of attribute agendas about two disparate situations -- during the revolution in Syria and after the revolution in Libya -- across two social media platforms. The trends show that Facebook posts about both Libya and Syria primarily focused on the role or stance of internal political actors and political demands. Because Libya was in the post-revolution stage, Facebook posts about nation building efforts and ideas represented the bulk of content, while both Facebook and Twitter posts on Syria included movements/protests as its primary content.

Interestingly the Twitter page maintained by the Libyan Youth Movement prioritized the content on Twitter differently from its Facebook page. The group's Twitter page prioritized information not only about post-revolution reconstruction, political and economic reforms, but also about the public's overall feelings about political situations and civil rights in post-revolution Libya. Memories from revolutions, e.g., remembering the first major protest against the Qaddafi regime, and news about Syria revolution were also featured in the tweets on Libya. The greater number of tweets on revolutionary and post-revolution Libya, and the revolution in Syria seem to reflect Twitter users' focus on these issues. The Libyan Youth Movement retweeted and replied to tweets of other users along with their own tweets on post-revolution situations in Libya. As Howard and his colleagues (2011) found in their study, pro-democracy advocates in Tunisia and Egypt utilized social media accounts to recruit followers from other countries and promote international discussion about the uprisings taking place inside those countries. The Twitter page on Syria that was administered from London relayed not only the information about the movement and protests in Syria, but also international discussion on the situation in the country. Compared to Facebook posts by Syrian Revolution 2011, the Syria News Wire Twitter page included proportionally less information about political demands and citizen's rights, and the roles of internal political actors.

Even though fewer posts were related to political actors and political demands in the Libyan case, the roles of internal political actors, political demands, and citizen's rights are still top agendas along with nation-building topics. The trend in the advancement of attribute agendas suggest that Libyans were still concerned about the future of political demands and citizen's rights and the roles of internal political players, such as National Transitional Committee (NTC). While coding the data, we could see some resentment and dissatisfaction about the NTC leadership and its commitment to secular democracy. This observation resonates with the comparison of how the euphoria around the "sweet" Arab Spring started to turn "sour" as the transitional or newly-elected authorities in the region were failing to act upon the expectations of

many in the affected countries (Saleh, 2012). Even after the revolution, people can differ in political opinion and actions around political reforms, often through social media. Hence, it is argued that social media still can play a key role in the post-revolution climate/environment reflecting new goals, and a new reality (Aouragh, 2012). Cyberactivism becomes purely civic engagement through contested political dialogue in post-revolution context.

This study was also interested in examining the trends in the sources used by Libya Youth Movement, Syria Revolution 2011 and Syria News Wire on different platforms. Analysis for RQ2 showed that all four social media accounts utilized more individual/social media pages over both news and non-news sources. This trend resonates with the findings reported in the Project for Excellence in Journalism's 2012 annual report on the state of American journalism (Mitchell & Rosenstiel, 2012). This trend of information flow on social media sites appears to have broader application.

Compared to the Libyan Facebook page, Twitter account on Syria, and the Libyan Twitter page, the statuses posted on Syrian Facebook page included fewer international media sources. The Syrian Facebook page had especially few references to international media source, which leads one to examine the possibilities for why this is the case. We have two assumptions about the use of fewer international media sources by the Syria-focused Facebook page. First, the purpose of the organization, as stated by the Syrian Revolution 2011, is to make political demands in a peaceful manner, not to relay information about the international media. Second, social media users associated with the account were sharing information originated from individual social media users and Syrian political organizations.

As mentioned by several sources, even international and regional news media got ideas and information relating to the uprisings from social media posts (Storck, 2011; Howard et al., 2011). Therefore, we cannot draw such conclusions for every context or every social account.

The state of access to information and the purpose of using social media can guide a page administrator or an activist group on how they will use different social accounts or SNSs. The Twitter page on Syria – Syria News Wire– was administered from London, and this may be the reason as to why their tweets, when compared to Facebook posts by the Syrian Revolution 2011, included more international media and Arab media sources. Both Facebook pages were more politically oriented. When compared to tweets, Facebook statuses on the Syrian uprising and post-revolution Libya included a relatively higher number of political sources.

Since the situation for the Libyan press improved after the regime change, Facebook posts on Libya included more local media sources than Arab media sources. As mentioned earlier, Libya was going through a time of rapid transformation of the press after the revolution. Hundreds of new newspapers and media outlets were cropping up in many Libyan cities (Davies, 2011). At this time media situation was less promising in Syria, if one considers the dismal state of press freedom. Depending on the situation of a country, we can find more use of certain information sources over others on a social media page. Because Libya was in the post-revolution phase, it was not surprising to see more reference to international/research/development organization sources in Facebook and Twitter posts on Libya than those about Syria. It was interesting to see how the international media was reporting on the post-revolution situation. Particularly as the second largest information source included in Shabab Libya's tweets and Facebook posts was international media and journalists. On the contrary, the Syria-oriented Twitter and Facebook pages, compared to the Libya-oriented pages, referred to more Arab media sources in their posts. Perhaps, since there was a political change in Libya, the regional media's focus shifted to

Syria. Also, because of the Syrian government's attempts to control local news media, Syria-oriented pages utilized Arab media sources more than the local media sources in their posts.

Earlier studies of agenda-setting research on Internet media advanced the idea of inter-media agenda setting effects, where mainstream and online media set the agendas for each other on different issues (Lee, Lancendorfer, and Lee, 2005; Sweetser, Golan, & Wanta, 2008; Kushin, n.d.). In the use of social media for political communication during and after revolution in two MENA countries, we can still see the use of traditional media content from international, Arab, and Local news sources, and, sometimes, political sources in addition to individual/citizen's sources. While the Libyan Youth Movement maintains its presence with its official website, YouTube page, Twitter and Facebook accounts, it shared some information from other platforms through Twitter and Facebook pages.

In addition to examining the trends in sources, we were interested in examining the relationship between the sources and agenda attributes in RQ3. Analyses revealed three types of relationships between attribute agendas and information sources; first, between two attribute agendas -- political demands/rights and the roles of political actors -- and the use of political sources; second, between international responses and two types of sources -- international media and political organizations; and third, between rebuilding in Libya and three types sources -- individual social media users, local media, and international development and research organizations. Information about the movement/protests in Syria was mainly derived from social media pages of individuals, local media, Arab media, and political organizations.

The use of certain information sources more than other sources can influence the salience of attribute agendas in social media posts. Moreover, this study found the presence of more attribute agendas on political problems and citizen's rights in the Facebook posts on both Libya and Syria, whereas tweets about these countries did not largely focus on these issues. Therefore, it found a significant statistical relationship between posts about citizen's rights/political problems (attribute agenda) and political organizations (information source), which included both political actors and citizen activist groups in Libya and Syria. The use of individual sources, which include page administrators of activists' and blogger's social accounts and other individuals' social media pages, significantly contributed to the generation of information about rebuilding efforts/post-movement organization in Libya and protests/movement in Syria. During the time of revolution in both countries, many citizens turned to alternative sources of information or citizen journalists. Even after the revolution, social accounts of Libya's activist group significantly used individual sources for tweets and Facebook posts.

The social media posts analyzed in this study reflected two disparate situations. However, in both during- and post-revolution situations, the sources of the majority of the Twitter and Facebook posts were either the page administrators or other individual social media users. The focus of tweets and Facebook posts by page administrators/other individual users varied for Libya and Syria. While individual/page administrator sources contributed to information about post-movement political reforms and nation building, the same type of sources generated information about protest events.

The roles of Twitter and Facebook, as analyzed in this study, during and after revolution reinforces the observation made by Miriyam Aouragh (2012). During revolution, social media is utilized to maintain and expand the momentum of a political movement, whereas in a post-revolution context the same media is utilized to gather and debate ideas with the participation of

different sources, including local politicians, citizens and international organizations in an effort to translate citizens' demands into reality.

Future Research

There are many areas to consider for future research. Discourse analysis of the tweets and posts could be conducted (e.g. Ifukor, 2010). As social media is becoming increasingly visual, future studies could examine photographs and videos to determine the role and/or attribute agendas they possess. Given the sheer number of posts that include these visual elements, it might be interesting to see how visual messages/cues work to reinforce other messages posted by an organization. In the case of the uprising in Syria, many of the videos and photos serve to document protests and atrocities. Many of these links showed photographs of the deceased, martyrs for the revolutionary cause, which would encourage researchers to think about the power of those images in rallying members, solidifying anti-government sentiment, and perhaps getting the attention of the international press and community.

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Appendix

Table 1: Codebook for Attribute Agendas

Attribute Agendas	Scope/Indicators	Examples	Sources
Political problems and Citizen's Rights	<ul style="list-style-type: none"> - Political demands/ rights -Power/Criticisms of regime - Concerns of citizens <p>(civic rights or women rights)</p>	<p>Concerns of citizens:</p> <p>@shabablibya u should have seen the constant influx at #Benghazi 1200 Hospital... and that was only one hospital. #Libya</p> <p>@JabaliLibya Well, as long as they are PAYING for it... it's not like we can drink the stuff anyway. #oil #Libya</p> <p>Political Demands & Regime</p> <p>Syria constitution to impose 2-term presidential limit. That would rule Bashar ineligible in the 2014 vote.</p>	Derived
International Politics/ Responses	<p>Responses from countries in Arab region and Arab League</p> <p>U.S., European and other countries</p> <p>International organizations</p>	<p>Responses from other countries in Arab region</p> <p>The emir of Qatar wants Arab troops to invade Syria. Well, Sheikh Hamad overthrew his own father, so don't act surprised. Sasa @syrianews</p> <p>Israel preparing to take 'Alawi refugees' from Syria http://www.nowlebanon.com/NewsArticleDetails.aspx?ID=350859 via @Syriana84</p> <p>#ICC Judges grant Libyan authorities until 23 January to submit observations on #Gaddafi case. (Via @IntlCrimCourt) #GaddafiCrimes</p>	Derived
Internal/Local Political Actors	<ul style="list-style-type: none"> - Stances or roles of political parties/the opposition alliance; - Stances or roles of the government 	<p>“Syria's Kurds mistrust government and opposition: activists”</p> <p>“Syria constitution to impose 2-term presidential limit. That would rule Bashar ineligible in the 2014 vote.”</p> <p>#SNC has re-elected Burhan Ghalioun for another 2 month term. SNC originally said presidents would be limited to 3mths. He already served 4.</p> <p>Syria 'arrests iconic blogger Razan Ghazzawi and leading activists'</p>	Derived

<p>Protest/ Movement</p>	<p>- Events of protest/ demonstration and clashes, Journalist killing, controlling the movement of the press (in the context of during- and post- movement)</p>	<p>Fantastic listen: "Bombardment" @BBCWorldService tells backstory behind Paul Wood's extraordinary assignment to #Homs.</p> <p>Nic Robertson @NicRobertsonCNN</p> <p>Opposing protests today in Damascus show Syrian society increasingly polarized.</p>	<p>Derived</p>
<p>Rebuilding Efforts/ Post- Movement Organization</p>	<p>- Local Groups</p> <p>- Events organized by Libyan/International Communities</p> <p>- Nation-building</p>	<p><i>Local groups/ communities:</i></p> <p>Just presented at the 1st coordination conference of Libyan communities & international orgs. Now taking place #Uzu #Hotel #Benghazi #feb16</p> <p><i>Event organized by local/ international communities:</i></p> <p>Charity event for #Syria TOMORROW @ Islamic Community Centre, Grimsby, North East Lincs, UK. 1pm-5pm, all family welcome. Auction & Food.RT!</p> <p><i>Nation building:</i> They report that 57% of Misurata's population voted. 62% were men, 38% women. #Libya</p> <p>#Libya's government allocating \$8 billion to reintegrate #FreedomFighters into civil life http://goo.gl/v2sü #Feb17</p>	<p>Derived</p>
<p>Others</p>	<p>- Information about revolution day celebration</p> <p>- Experience of struggle in Sryia and in other countries witnessing uprising</p>	<p>An example of highlighting Syrian revolution:</p> <p>Please watch this powerful video & share: This is my story (A Syrian boy) طفل قصة سوري http://goo.gl/SDZWt #freeSyria □□□□□□□□ #Syria □□□□□□□□</p> <p>RT Celebration of Feb. 17 anniversary Participation in international sports tournament with new spirit</p>	<p>Derived</p>

Table 2: Information Sources for Posts on Facebook and Twitter pages included in this study

Information Sources	Scope/Indicators	Examples
Page administrators and individuals' social media pages	Posts by the administrators of the selected social media pages in this study and their retweets/mentions/share or referring/replying to a message posted on another Twitter and Facebook page managed by other individuals (not organizations).	Jasmine Roman @JasmineRoman01 Syria Tweep, MidEast Politics, Democracy, Freedom of Opinion, Traveller, YLVP, Metamorphosis, Foodie, Notebooks lover, currently unfolding my own myth. Khaled M: music for the voiceless, voted most interesting person by CNN
Arab media and journalists	Tweet/Facebook status sharing or referring to an Arab media source or Arab media journalists on the social accounts selected for the study.	Kuwait News Agency; Al Aan TV @alaantv Al Aan TV is a pan-Arab TV channel based in Dubai, presented in an infotainment format, targeting women and family audience. Inter Press Service (IPS) Lebanese papers today... Daily Star & Al-Safir lead on Syria. Al-Nahar, Al-Akhbar, Al-Diyar on Nahhas. http://pic.twitter.com/IRMWErLl
International media and journalists	Tweet/Facebook status sharing or referring to international media sources or international journalists representing news organizations headquartered in the countries outside the Arab region.	Sources: NPR, Marie Colvin, Guardian, Andy Carvin (Sr. Strategist at NPR) A status referring to international journalists: Paying Tribute to a fallen journalist in Libya (Feb. 19, 2012) http://www.shabablibya.org/news/paying-respects-to-a-fallen-journalist-in-libya
Information Sources	Scope/Indicators	Examples
Local News Media	Tweet/FB status referring to news media based in Libya or Syria	The Tripoli Post Syrian Arab News Agency
International, Developmental and Research	UN, NATO, EU, Arab League, foreign governments and	Foreign and Commonwealth Office , Government of UK

Organizations	officials, political parties outside Libya and Syria, and such; human rights groups; nonprofits and research organizations operating internationally and/or based in Syria and Libya	Sharron Ward @KatalystProds Social issue documentary & news production company. If you don't stand for something - you'll fall for anything ... www.addictedinafghanistan.com Jillian C. York @jilliancyork Director for International Freedom of Expression @EFF
Local Political organizations	Local political parties, citizen activist groups in Syria and Libya	@HaririSaad Former Prime Minister Saad Hariri Official Profile

Table 3: A Trend of Tweets and Facebook Posts on Libya Situation and the Syria Uprising

	Libya		Syria	
	Twitter	Facebook	Twitter	Facebook
Political demands and citizen's rights	4.1%	45.7%	16.3%	76.7%
International Politics & Responses	3.5%	21.3%	5.8%	12.1%
Local/Internal Political Actors	1.8%	72.4%	17.3%	95%
Rebuilding Efforts/ Post-Movement Organization	6.5%	43.3%	--	--
Protest/ Movement	32.9%	--	55.8%	56.3%
Others	58.8%	17.3%	9.6%	--
N	170	127	104	240

Note: More than one attribute was coded for many cases.

Figure 1: Information sources used in tweets and Facebook posts on Libya situation and the Syria uprising

